

REMARKS

Claims 1-14 and 17-19 are now pending in the application. Claims 1, 4, 5, and 7-9 are currently amended. No claims are cancelled or newly added by this amendment. The Examiner is respectfully requested to reconsider and withdraw the rejections in view of the amendments and remarks contained herein.

REJECTION UNDER 35 U.S.C. § 103

Claims 1-9 and 14-17 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Inoue (U.S. Pat. No. 6,798,564; "Inoue") in view of Islam (U.S. Pub. No. 2003/0133179; "Islam"). Claims 10 and 18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Inoue in view of Islam in view of Mitsuda (U.S. Pat. No. 5,936,763; "Mitsuda"). Claims 11 and 19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Inoue in view of Islam in view of Wai (U.S. Pub. No. 2004/0184491; "Wai"). Claims 12 and 13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Inoue in view of Islam in view of Yokota (U.S. Pat. No. 6,424,459; "Yokota"). These rejections are respectfully traversed.

Independent claim 1 has been amended so as to recite that the forward pumping light has a plurality of wavelengths. Support for this limitation can be found, for example, in paragraph [0074] of the specification of the present application, which describes that a "multiwavelength FBG-LD pumping light source" (emphasis added) is used.

Dependent claims 4, 5, 7, 8, and 9 have been amended so as to conform to the recitation of amended claim 1. Dependent claim 9 has also been amended so as to

remove the phrase "a laser diode with a single-wavelength fiber Bragg grating" (emphasis added) because this phrase is inconsistent with the foregoing limitation incorporated into independent claim 1.

Independent Claim 1

The Examiner's assertions rely upon FIG. 25 of Inoue and an HNL (highly nonlinear fiber) 20 shown in FIG. 23 of Inoue. For example, the Examiner asserts that the "calculated frequency difference based on a forward pumping light of 1385 nm (See fig. 25), and the shortest signal light of wavelength of ~1480 nm (See fig. 23) is 13.9 THz which is within the given frequency range of the limitation 13.7~17.9 THz" (see page 2, Item 1, lines 19-21 and page 2, Item 2, lines 12-13 of the Advisory Action).

However, the forward pumping light shown in FIG. 25 of Inoue has a single wavelength (i.e., 1385 nm). In contrast, the forward pumping light of the invention as recited in independent claim 1 (hereinafter referred to as "the present invention") has a plurality of wavelengths. Therefore, the present invention is clearly distinguishable from FIG. 23 and FIG. 25 of Inoue.

Meanwhile, FIG. 24 of Inoue discloses forward pumping light having a plurality of wavelengths. However, as shown in FIG. 24 of Inoue, the longest wavelength of the forward pumping light is 1422 nm. In this case, the shortest wavelength of signal light is 1480 nm, as shown in FIG. 23 of Inoue. Accordingly, the frequency difference corresponding to the difference between the longest wavelength of the forward pumping light and the shortest wavelength of the signal light is calculated as approximately 8.3 THz. This value does not fall within the claimed range of 13.7 to 17.9 THz.

The other embodiments of Inoue also fail to disclose the claimed range of 13.7 to 17.9 THz. For example, in FIG. 8, FIG. 12, and FIG. 29 of Inoue, the calculated frequency differences are approximately 3.2 THz, 3.9 THz, and 8.9 THz, respectively. Please note that although FIG. 28 of Inoue shows that the minimum wavelength of input signal light is 1480 nm, column 15, lines 40-42 of Inoue clearly states that the signal wavelength band is set to 1450 to 1630 nm and that the bandwidth of the signal light is 180 nm (= 1630 nm - 1450 nm).

In this way, the present invention is clearly distinguishable from Inoue. Moreover, Islam also fails to disclose or suggest the foregoing feature of the present invention. For example, the Examiner merely states that "examiner used a secondary reference (Islam) to emphasize that a similar Raman amplification system can be used for broadcasting or distributing signals throughout a given area" (see page 2, Item 1, lines 22-23 and page 2, Item 2, lines 17-18 of the Advisory Action). Therefore, Islam cannot remedy the deficiency of Inoue.

Hence, the present invention is not obvious from Inoue in view of Islam, and thus the present invention is patentable.

Dependent Claims 2-14 and 17-19

These claims are also patentable over the cited references at least by virtue of their dependency on independent Claim 1.

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action and the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested.

If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

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